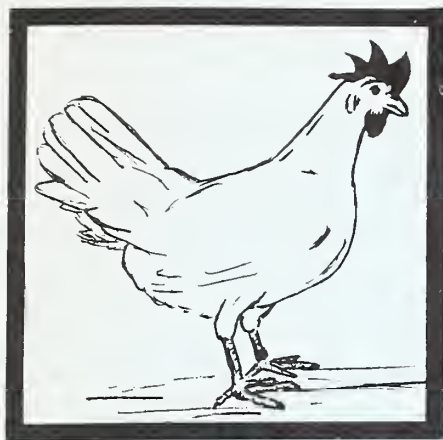


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aSF601
.U5FOREIGN ANIMAL DISEASES REPORT
MAY 1972

MILITARY GROUP AIDS ERADICATION PROGRAM

In response to a request by USDA, the Department of Defense has assigned over 200 military personnel to assist the Exotic Newcastle Disease Task Force in southern California. The group is composed of 40 veterinarians and approximately 160 noncommissioned officers. The military veterinarians will assist with inspection, investigation of suspicious cases, traceback on confirmed cases and quarantine enforcement while the noncommissioned officers will be used to supervise vaccination teams throughout the area. The group is made up of Air Force, Army, Marine, and Navy personnel. The task force in California now involves over 1000 people.



VEE INFLUENCES OLYMPIC GAME PARTICIPATION

A meeting sponsored by OIE* was recently held in Paris, France, concerning the rules and methods of control which should be applied to the traffic of race horses and sport horses traveling between the Americas and Europe. Of special interest was the importation of horses into Munich, Germany, for the 1972 Olympic games.

Among other requirements for importation into Germany, horses must undergo a two-week period of quarantine in Germany under official veterinary supervision during which time the horses will be subjected to tests for VEE. Following the period of quarantine, the horses must be in Germany for at least two months before the Olympic games start in August.

Provided these criteria are followed, the French, Irish, and British authorities will allow horses from their countries to participate in the Olympic games.

* Office of International Epizootics

EMERGENCY PROGRAMS
VETERINARY SERVICES
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

U. S. DEPT. OF AGRICULTURE
NATIONAL ANIMAL HEALTH SERVICE

MAR 28 1974

CALIFORNIA

VENEZUELAN EQUINE ENCEPHALOMYELITIS - A REVIEW

Definition ... Venezuelan equine encephalomyelitis (VEE) is an arbovirus disease primarily of equines and of man. Infection in equines precedes and is more serious than in man. Other mammals, both domestic and wild, may be infected but suffer no serious effects. Birds and bats may also be infected but show no overt signs of the disease.

Infection in horses may be subclinical, mild, severe, or fatal. Fifty percent of the horses affected may show no clinical signs. At the same time, death may come without evidence of any neurological manifestations.

Severity of the disease is related to the immunity level in the population as well as to the state of health of the exposed animal.

History ... In 1935, an encephalitic disease of horses appeared in western Colombia. The following year the disease was seen in northern Colombia and adjacent Venezuela. By 1938, the disease was reported spread across northern Venezuela.

That same year investigators in Venezuela isolated a filterable virus from the brain of a horse that had died with encephalitic signs. The virus was immunologically different from and more virulent than the viruses of eastern or western encephalomyelitis. It killed guinea pigs within 48-72 hours regardless of the route of inoculation. Later in 1938, investigators in the United States confirmed the findings of the Venezuelan scientists. Due to its origin, the equine neurotropic virus was designated "Venezuelan".

In 1943, encephalomyelitis again spread eastward across Venezuela. In October it affected donkeys on the Island of Trinidad, eight miles off the eastern coast of Venezuela. VEE virus was isolated from Mansonia titillans mosquitoes, the preponderant species caught in the area of the disease outbreak.

During the next quarter century VEE was reported in Ecuador, Peru, Argentina, Brazil, the Central American countries, and in Mexico.

Although VEE had never been recorded in horses in the United States, serological evidence of the disease appeared in 1955, when antibodies to VEE virus were found in migrant waterfowl in Louisiana. Five years later, VEE antibodies were detected in Seminole Indians living near the Florida Everglades. In 1963, VEE antibodies were found in Miccosukee Indians living in the Everglades area, and VEE virus was isolated from mosquitoes collected in several Everglades habitats. The strain isolated was not the epidemic strain of VEE.

A serum survey of wildlife in west central Utah in 1965 revealed complement fixing antibodies to VEE in eight species of native wildlife and in seven of more than 4700 range beef cattle. The strain of virus involved was not determined.

In 1970, VEE was reported widespread in southern Mexico and spreading northward along the gulf coast. By June 1971, the disease was reported in a village seven miles south of the United States-Mexico border. On July 9, 1971, the epidemic strain of VEE was confirmed by the laboratory in a horse in Brownsville, Texas.

Signs ... Clinical signs vary with geography, previous exposure to the disease, or the presence of other disease organisms and conditions of subhealth. The most common initial signs are depression, inappetence, and temperatures ranging from 103⁰ F. to 107.2⁰ F. Thereafter, impaired vision and respiratory difficulty are noted. (Damage to the respiratory center of the brain causes contraction of the greater abdominal oblique muscle with the development of a noticeable heave line).

Affected horses may or may not show signs of central nervous system involvement. If they do, these appear as chewing movements of the jaws, incoordination, and circling. Approximately 20 percent of these horses become immobile or develop a braced stance.

Under experimental conditions using naturally-infected mosquitoes, the incubation period of the virus occurs within 48 hours. Under natural conditions the incubation period is from 1-3 weeks. Viremia arises before the appearance of clinical signs and may persist until death. Fifty percent of the deaths may occur in less than 1 to 2 days; the remainder within 4 to 8 days.

Diagnosis ... Field observation of neurological signs such as sleepiness, incoordination, circling, or a braced stance will indicate an encephalitis. However, toxemias produced by minerals, mesquite beans, and moldy corn or hay may produce similar signs. To further complicate field diagnosis, approximately 50 percent of horses affected with VEE show no clinical signs. Of those that do show signs, not all are neurological.

The only definitive diagnosis of VEE is the isolation of the virus from the brain, blood, or nasopharyngeal washings. Serological proof may be obtained from a comparison of the rise in antibody titers of paired blood samples taken about 10 days apart. Frequently, however, the horse dies before the second sample can be obtained.

Post Mortem ... There are no characteristic gross lesions. Although the disease is called an encephalomyelitis, the principal pathological changes seen are vascular. The brain is congested with petechia in both the gray and the white matter. The meninges are injected and edematous. The liver is pale and friable. The spleen has petechia. The heart may have areas of congestion.

Epidemiology ... Virus: Four principal types and five subtypes of VEE virus have been identified. These include both endemic and epidemic strains. The endemic strains produce disease in humans and in some rodents. In equines,

however, infection not only fails to produce clinical signs but is believed to immunize the hosts against infection with the epidemic strains. The strain of VEE virus found in Florida is endemic and apparently nonpathogenic for equines.

The epidemic strain that entered Texas in 1971, on the other hand, is highly virulent for equines and the blood of the host probably is infectious for most species of mosquitoes.

Transmission: Since 1943, when Mansonia titillans mosquitoes were implicated in the transmission of VEE in Trinidad, more than 40 additional species of mosquitoes have been incriminated as actual or potential vectors of the disease. VEE virus was also isolated from Simulium black flies in Colombia, and it is not unreasonable to believe that other blood-sucking flies may similarly serve as vectors of VEE.

Although virus circulates at lower levels in birds than in mammals, mosquitoes may be infected when they take a blood meal. VEE virus has also been isolated from several species of bats. The hibernation habits of bats and the migratory instincts of both birds and bats present possibilities for the maintenance and spread of VEE.

VEE may be spread by contact. Both man and the horse have been infected via the nasopharynx. In laboratory studies, VEE virus was shed in the nasal, ocular, and oral secretions, as well as in the urine and milk of an infected horse.

In countries where the horse is a common means of transport it probably serves as an important means of spreading the disease.

Season and Climate: These influence the spread of VEE in areas where they limit insect activity. Seasonal and climatic changes, however, only minimally affect the year-round maintenance of the disease in its reservoir hosts.

Hosts: VEE affects many species of wildlife, birds, domestic animals, and man. VEE virus or antibodies have been detected in approximately 72 species of wildlife, including mice, rats, rabbits, opossums, coyotes, and foxes; in about 25 species of birds; and in several species of bats.

The virus is pathogenic for equines and man, cats, dogs, sheep, goats, rabbits, mice, and guinea pigs. On the other hand, birds and bats (the latter with high concentrations of virus in the blood) show no overt signs of infection.

Control ... The three primary measures in control are strict limitation on the movement of equines, widespread abatement of insect vectors, and vaccination of susceptible equidae. The effectiveness of these procedures depends upon the spread of their initiation and the totality of their coverage.

Individual horse owners can take additional action. Horses and their quarters can be treated with appropriate chemical sprays. Sick horses should be isolated in mosquito-proof enclosures. Antibiotics may be administered to combat secondary infections. Sick horses should be assisted in eating and drinking and given improvised nursing care.

VEE ACTIVITIES

VEE Encephalitis Investigations During April, 1972 ... During the month of April, investigations were conducted in 33 horse herds in 11 States. This brings the total number of investigations in calendar year 1972 to 69. All of these cases have been diagnosed as negative for VEE except 20 cases which are waiting for laboratory results. In five of the 20 pending cases, the samples were submitted to laboratories other than NADL.

Marshall, Texas ... The mosquito and dog samples collected in the Marshall, Texas, area in connection with the first encephalitis investigation were negative for VEE. Further laboratory tests on the blood samples of the horse investigated on February 10, 1972, were also negative for VEE.

VEE Surveillance 1972 ... Approximately 1100 surveillance samples have been collected through the month of April for testing VEE antibodies. The animals tested included unvaccinated horses, burros, dogs, rabbits, raccoons, opossums, ring-tailed cats, deer, bobcats, coyotes, skunks, foxes and one muskrat. No positive serological evidence of VEE has been obtained from the animals tested in the primary surveillance zone.

REPORTED VEE VACCINATIONS (With Commercial Vaccine Through April 1972)

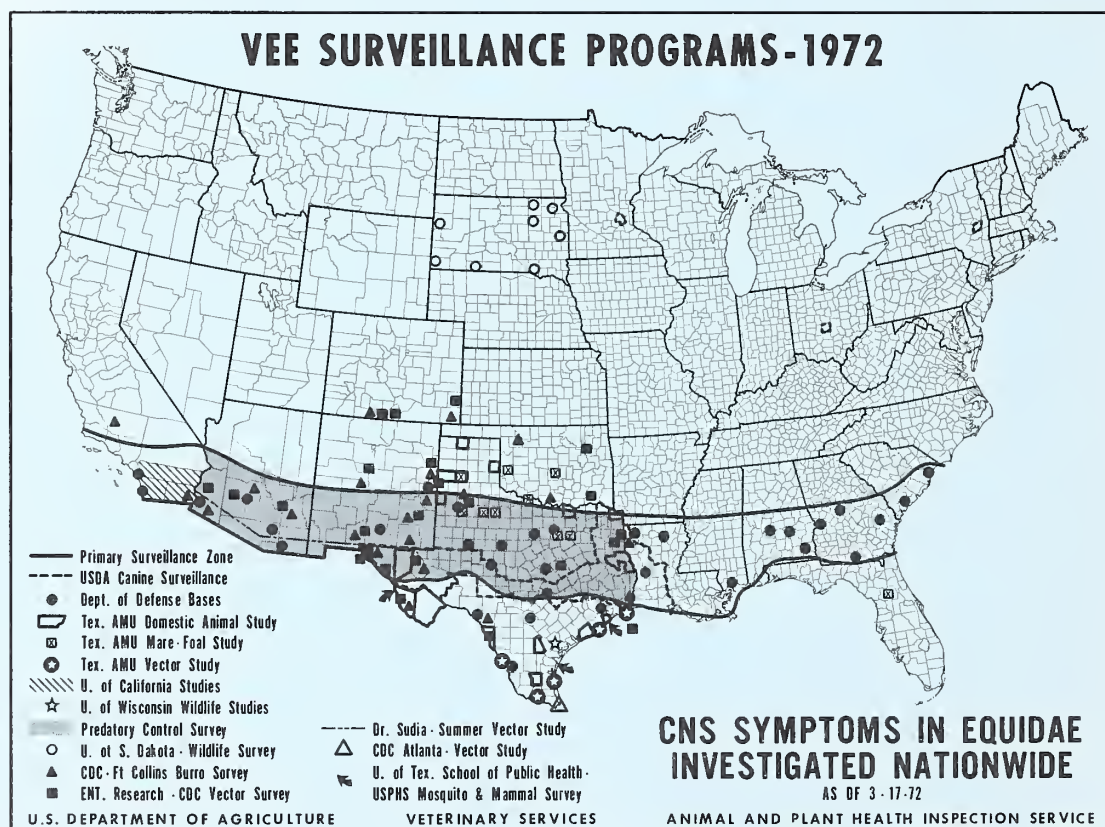
Alaska	0	Nebraska	230
Arkansas	5	Nevada	591
Colorado	4	New York	5177
Florida	1476	Oregon	401
Georgia	19	Pennsylvania	404
Hawaii	0	South Carolina	67
Idaho	856	South Dakota	3
Indiana	543	Tennessee	52
Iowa	0	Utah	2245
Kansas	111	Vermont	492
Kentucky	126	Virginia	159
Louisiana	186	West Virginia	53
Michigan	1018	Wisconsin	2067
Minnesota	842	Wyoming	0
Montana	0		
TOTAL		17,127	

Results Received in 1972 From Surveillance Samples Collected in July and August 1971:

Harrison County, Mississippi--All questionable hemagglutination inhibition test results were confirmed by serum neutralization. In 106 horses tested for VEE prior to vaccination, there was no serological evidence of previous infection. In the post-vaccination testing of 106 of these horses, 94 had antibody response to VEE vaccination, the other 10 horses remained negative.

Survey samples collected from other species (two cats, eight dogs, eight sheep, 43 swine, 51 cattle, seven birds, five opossums, two raccoons, and one squirrel) were all negative for VEE. One pig sample was positive for WEE on HI and SN tests and negative for VEE and EEE.

South Dakota--Dr. Parikh of South Dakota State University reported that Canadian geese tested during 1970 in South Dakota were negative for VEE antibodies. Canadian geese tested in 1971 in the same area of the State revealed antibodies indicative of exposure to the virus. It is believed that these geese probably overwintered in Mexico.



The VEE surveillance map above does not indicate the scope of surveillance activity of the California Department of Public Health, nor the Army personnel at Dugway, Utah. CDC has informed us they are conducting vector and mammal surveys in the same areas designated on the map as vector studies. The legend showing University of South Dakota Wildlife Survey should be changed to South Dakota State University Wildlife Survey. The areas marked in Minnesota, Ohio, and New York are sites of canine surveillance to furnish baseline data.

EXOTIC NEWCASTLE DISEASE ACTIVITIES

During April, the number of diagnosed positive flocks with longstanding infection has increased and continues at a rather high level. This reflects the task force's accelerated efforts in locating old infected flocks, and the industry's awareness of sickness in their flocks resulting in increased reporting of disease. The number of suspicious cases investigated has increased steadily and continues at a high level. In spite of this increased activity, the backlog of infected flocks pending depopulation has been eliminated.

Viscerotropic velogenic Newcastle disease was diagnosed in one small back yard flock at Parker, Arizona, Yuma County, in early April. Investigation is continuing to determine the probable source of this isolated case.

With the exception of the Arizona case, the outbreak has been contained within the eight county quarantined area of southern California. Positive cases have been diagnosed in six of the eight counties. The vast majority of the cases are located in the hot spot areas in the southwestern corner of San Bernardino County, the northwest corner of Riverside County, the eastern portion of Los Angeles County which is adjacent to the above two areas, the western portion of Los Angeles County and Canoga Park, and an area in Ventura County around Moor Park.

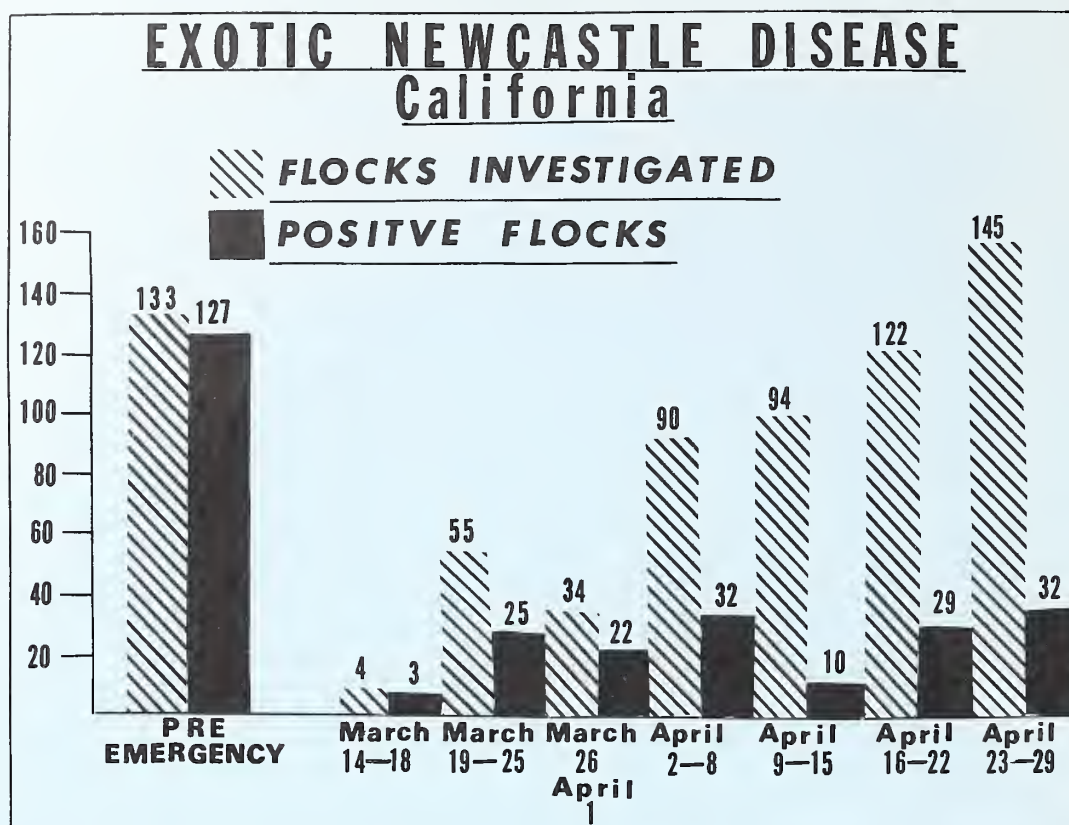
The method of spread has several possibilities - Direct bird-to-bird contact; free flying wild birds; movements of personnel, poultry and poultry products, egg cartons, and exotic birds; and the wind.

As of April 30, 1972, 25,221 flocks in Arizona and California have been inspected since the emergency was declared. This involved over 63,780,000 birds. There are 532 suspicious flocks that have been investigated by diagnosticians which revealed 141 positive cases involving 883,085 birds. There are 197 flocks including 63 from before the emergency that have been depopulated which involves 2,552,783 birds. A total of 20,978,000 birds have been vaccinated under supervision. An additional 19 million vaccinations by owners have been recorded between January 1, 1972, and March 14, 1972.

Cleaning and Disinfection ... As of April 27, 1972, 204 of the 247 depopulated premises have been cleaned and disinfected.

Quarantine ... A portion of Dona Ana County in New Mexico and portions of El Paso County in Texas were released from quarantine on April 27, 1972. No areas of New Mexico or Texas are now under quarantine because of exotic Newcastle disease.

After a Federal quarantine was placed on these areas on December 23, 1972, spent hens have been allowed to go to State or Federal slaughter establishments under permit when inspected by a State or Federal veterinarian, and day old vaccination of chicks, with revaccination of mature birds each 60-day period has been practiced. Early in February 1972, sentinel specific pathogen free serologically



negative birds were placed on all quarantined premises in New Mexico and Texas which still contained poultry. HI tests have been made periodically and birds that have died from any cause have been autopsied and virus isolations attempted. Virus has not been isolated nor have gross lesions compatible with viscerotropic, velogenic Newcastle disease been noted.

The counties of Riverside, San Bernardino, Orange, Los Angeles, Santa Barbara, Ventura, San Diego, and Imperial in California, Yuma County and a portion of Mohave County in Arizona and all of Puerto Rico remain under quarantine because of exotic Newcastle disease.

CHILE TO IMPORT 10 MILLION DOSES NEWCASTLE VACCINE

The National Poultry Enterprise (Empresa Nacional Avicola of Santiago, Chile) has announced that it will import 10 million doses of Newcastle vaccine to cover domestic needs in view of the epidemic which is affecting the poultry farms in the central zone. Five million doses will be imported from Peru and the remainder from West Germany and Great Britain. Chilean laboratories are at present producing 24 million doses of Newcastle vaccine per month which has been sufficient to meet domestic requirements. The large importation of vaccine will be made to speed up usage of the vaccine in view of the existing emergency.

VACCINATION RECOMMENDATIONS FOR CALIFORNIA QUARANTINE AREA

	<u>Type of Bird</u>	<u>Age</u>	<u>Vaccine</u>	<u>Method of Application</u>
<u>A</u>	Replacement Pullets	1-10 days	B ₁ or La Sota	Individual bird*
		4-5 weeks	La Sota	Individual* or mass**
		12 weeks	La Sota	Individual* or mass**
		Every 60 days	La Sota	Individual* or mass**
<u>B</u>	Optional Plan for Replacement Pullets	1-10 days	B ₁ or La Sota	Individual bird*
		5-6 weeks	Tissue Culture or Roakin Strain	Individual bird (IM) Individual bird (wing web)
		18-20 weeks	Tissue Culture or Roakin Strain	Individual bird (IM) Individual bird (wing web)
		12-16 weeks later	Tissue Culture or Roakin Strain	Individual bird (IM) Individual bird (wing web)
Birds carried over into a second production period should be revaccinated with Tissue Culture Strain or Roakin, as indicated above.				
<u>C</u>	Broilers	1-10 days	B ₁ or La Sota	Individual bird*
		4-5 weeks	La Sota	Individual* or mass**
<u>D</u>	Breeder Replacement Turkeys	Same as optional plan for replacement pullets (B)		
<u>E</u>	Meat Turkeys	1-10 days	B ₁ or La Sota	Individual bird*
		6-8 weeks	Tissue Culture or Roakin Strain	Individual bird (IM) Individual bird (wing web)
After selection, breeding birds should be revaccinated with Tissue Culture Strain or Roakin, as indicated above. Revaccinate turkeys if force molted.				
<u>F</u>	Flocks in lay (unknown immunity or poor vaccination)	---	B ₁ or La Sota (every 60 days)	Individual* or mass** application
<u>G</u>	Optional plan for flocks in lay (unknown immunity or poor vaccination)	---	Tissue Culture	Individual application (IM)
		12-16 weeks	Tissue Culture	Individual application (IM)
Revaccinated with Tissue Culture Strain, as indicated above, on moulting.				

* Intraocular or Intranasal. ** Spray or in water.

Note: Use of mass application should be based on professional evaluation.

VESICULAR DISEASE INVESTIGATIONS

SUSPECTED VESICULAR CASES INVESTIGATED* UNITED STATES - Calendar Year 1971

TESTED SAMPLES				COVERED, YEAR 1971			
Month	No. Invest.	Test Results		Month	No. Invest.	Test Results	
		VS	FMD			VS	FMD
		Pos.	Neg.			Pos.	Neg.
January	1	1	1	July	6	6	6
February	1	1	1	August	8	8	8
March	2	2	2	September	9	9	9
April	7	7	7	October	9	9	9
May	4	4	4	November	3	3	3
June	10	10	10	December	0	0	0

* A total of 60 farms were reported and investigated, all were diagnosed not vesicular. So far this calendar year (1972) - six investigations have been made - all negative. All suspected vesicular cases pre-routinely checked for FMD as an early detection system in the event FMD gains entry into the United States.

MEXICO

As of April 27, 1972, eight investigations of suspicious vesicular disease conditions have been conducted this calendar year by our personnel and their Mexican counterparts. Two positive cases of vesicular stomatitis (New Jersey strain) were found in the State of Vera Cruz near Coatzacoalcos.

CENTRAL AMERICA

We have received reports of 23 vesicular investigations in Costa Rica, El Salvador, Nicaragua, and Honduras as of the end of March 1972. Of the 23 investigations, 19 were positive for vesicular stomatitis (12 New Jersey, 7 Indiana). Our veterinary adviser in Costa Rica with his Costa Rican counterpart, has participated in 12 of these investigations.

COLOMBIA

An epidemiological note of the 1-15 March PAHO report indicates that there has been a significant increase in the number of vesicular diseases foci in the south of the country, in the Department of Narino and in the Camisaria of Putumayo; and in the northeast, in the Departments of Santander and Boyaca.

NEW ZEALAND\APPOINTS NEW DIRECTOR OF ANIMAL HEALTH

We were advised, on April 10, 1972, that Dr. G. H. Adlan has been appointed Director of the Animal Health Division and Chief Veterinary Officer for New Zealand.

OUTBREAKS RECORDED OF FOOT-AND-MOUTH DISEASE*
(Country, Date Last Outbreak and No. Outbreaks in 1971)

EUROPE

Iceland	Never had FMD	0	Austria	May 1966	0
Norway	1952	0	Spain	1971	508
Sweden	1966	0	Portugal	1971	1055
Finland	1960	0	Albania	1959	0
Ireland	1941	0	Yugoslavia	Nov. 1968	0
Denmark	April 1972	0	Hungary	Nov. 1968	0
Great Britain	1968	0	Czechoslovakia	Dec. 1969	0
North Ireland	1941	0	German Dem. Rep.	July 1971	3
Belgium	1971	1	Poland	July 1971	1
Netherlands	Feb. 1972	21	Romania	Jan. 1969	0
Luxembourg	1963	0	Bulgaria	June 1966	0
France	Dec. 1971	8	USSR	Nov. 1971	349
Fed. Rep. of Germany	Dec. 1971	9	Greece	Feb. 1971	2
Malta	1946	0	Cyprus	1964	0
Switzerland	April 1969	0	Turkey	Dec. 1971	341

NEAR EAST

Lebanon	Nov. 1971	56	Kuwait	?	?
Jordan	?	0	Bahrein	?	?
Syria	?	0	Saudi Arabia	?	?
Irak	Dec. 1971	15	Aden	?	?
Iran	Dec. 1971	239	Israel	Feb. 1971	14

NORTHERN AFRICA

Egypt	April 1971	14	Algeria	?	?
Lybia	?	?	Morocco	?	?
Tunisia	Feb. 1971	1			

SOUTH AMERICA

Argentina	Nov. 1971	2142	Rio Grande		
Chile	Dec. 1971	45	do Sul	Dec. 1971	405
Uruguay	Nov. 1971	110	Colombia	Nov. 1971	166
Paraguay	Dec. 1971	91	Venezuela	Nov. 1971	77

* Data from Table I - European Commission for Control of Foot-And-Mouth Disease
Rome, Italy, 11-14 April 1972

NICARAGUA AND COSTA RICA SIGN AGREEMENT

Nicaragua and Costa Rica recently signed agreements with the United States Department of Agriculture to cooperate in animal disease prevention and control. Negotiations are underway with other Governments of Central America and Panama to negotiate similar agreements.

These agreements are in accordance with P.L. 92-152 which authorizes the Secretary of Agriculture of the United States to cooperate with the Governments of Mexico, Guatemala, El Salvador, British Honduras, Panama, Colombia, and Canada in the prevention, control and eradication of foot-and-mouth disease (FMD), rinderpest, and other communicable diseases of animals which pose a threat to the livestock industry of the United States.

Presently, we have veterinary advisers in El Salvador and Costa Rica assisting these and other Central American countries in carrying out the responsibilities as set forth in the Cooperative Agreements. We plan to add two veterinary advisers and a program specialist to our advisory team in Central America. USDA also has veterinarians in Mexico, who are members of the Mexico-U.S. Commission for the Prevention of Foot-and-Mouth Disease. This Commission or its predecessor, the Mexico-U.S. Commission for the Eradication of Foot-and-Mouth Disease, have operated continuously since the FMD eradication program began in 1947.

NEW AUSTRALIAN REGULATORY JOURNAL

The Commonwealth of Australia, Department of Health has initiated a new journal, published quarterly and dealing with items of interest to Australian veterinary surgeons, research workers, stockowners and people in industries concerned with the importation of animals and biological products. The title of the journal is "Animal Quarantine" and the first issue was for January-March, 1972.

Requests to be placed on the mailing list for this journal should be sent to the Director General of Health, P.O. Box 100, Woden, A.C.T. 2606, Australia.

VEE REPORTED IN MEXICO - STATE OF ZACATECAS

A disease outbreak in horses, clinically resembling VEE, was reported to our personnel in Mexico City by the Mexican authorities. The outbreak occurring in the State of Zacatecas was said to have killed 20 horses. One thousand horses have been vaccinated for VEE and the outbreak is reported to be under control as of May 2, 1972.